Los Angeles District

Plan Formulation Workshop

Exercise 1

Formulation Workshop Briefing: Planning Objectives

- Planning objectives and constraints are the base for plan formulation
- This briefing gives the student sufficient information to establish both planning objective and constraints

Formulation Workshop Briefing: Planning Objectives

- YOUR ASSIGNMENT IS TO:
  - Work in interdisciplinary groups
  - Chose a spokesperson
  - Develop a list of planning objectives
  - Develop a list of planning constraints
  - Present your findings to the class
    - We will ask one group to present the objectives
    - We will ask another group to present the constraints

Presentation Outline

- Study Authority
- Study Area
- Identification of Problems and Opportunities
- Local Sponsor Concerns
- Agency and Other Stakeholder Concerns
- Preliminary Baseline Findings

Study Authority

U.S. Senate Resolution

"...that the Secretary of the Army is directed to review the report of the Board of Engineers for Rivers and Harbors dated 31 December, 1985, San Diego Streams, California, for the purpose of watershed management, including flood control, environmental restoration, stormwater retention, water conservation and supply, and related purposes, and with a specific focus on the Santa Margarita Watershed, including Murrieta Creek, San Diego and Riverside Counties, California."

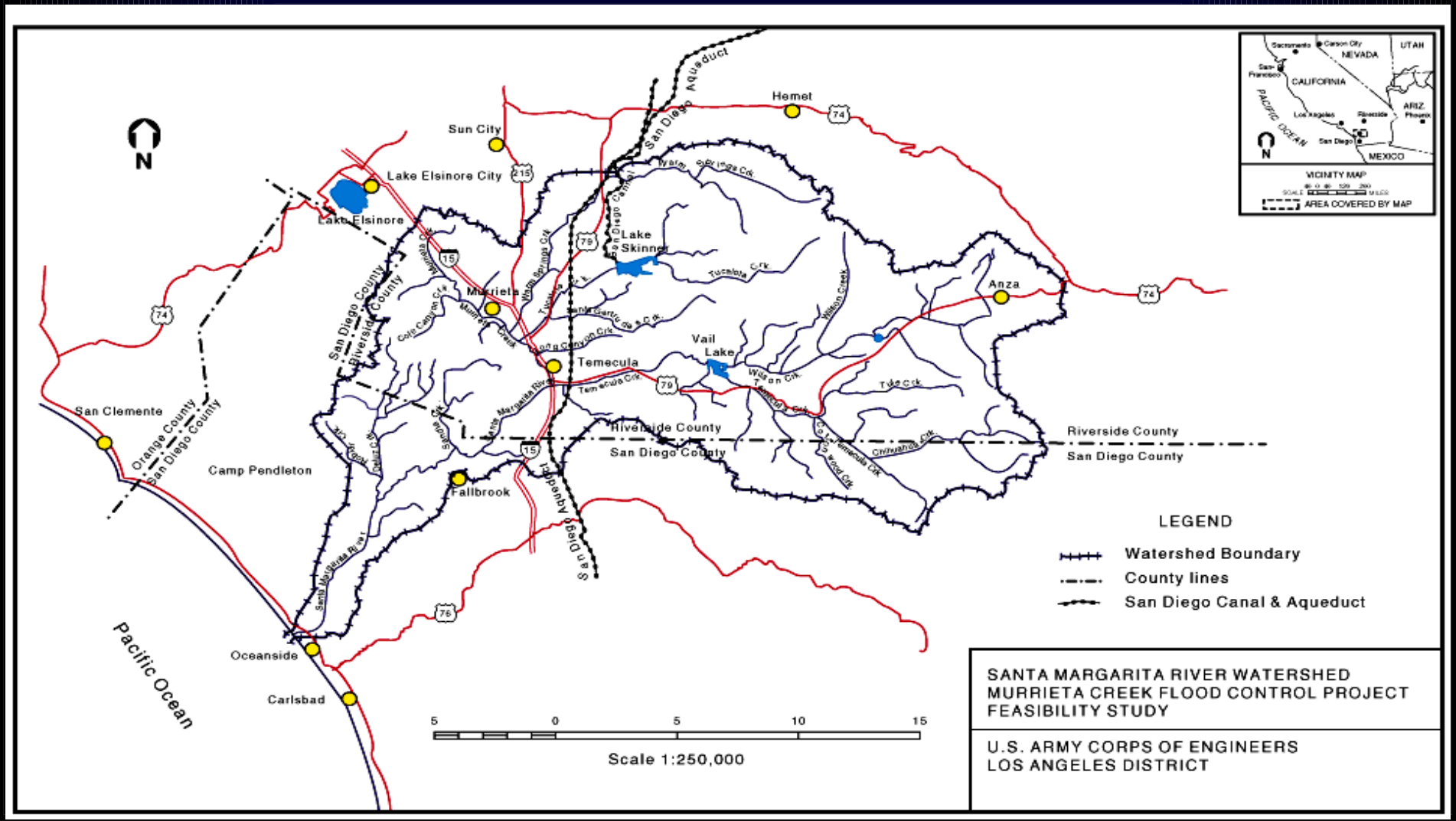
Study Authority

- **Study Purpose: Watershed management including:**
- **Flood control**
- **Environmental restoration**
- **Stormwater retention**
- **Water Conservation and Supply**
- **Related Purposes**

Murrieta Creek upstream of Main Street (northward view) Reach 1

- **Focus on Santa Margarita Watershed, including Murrieta Creek**

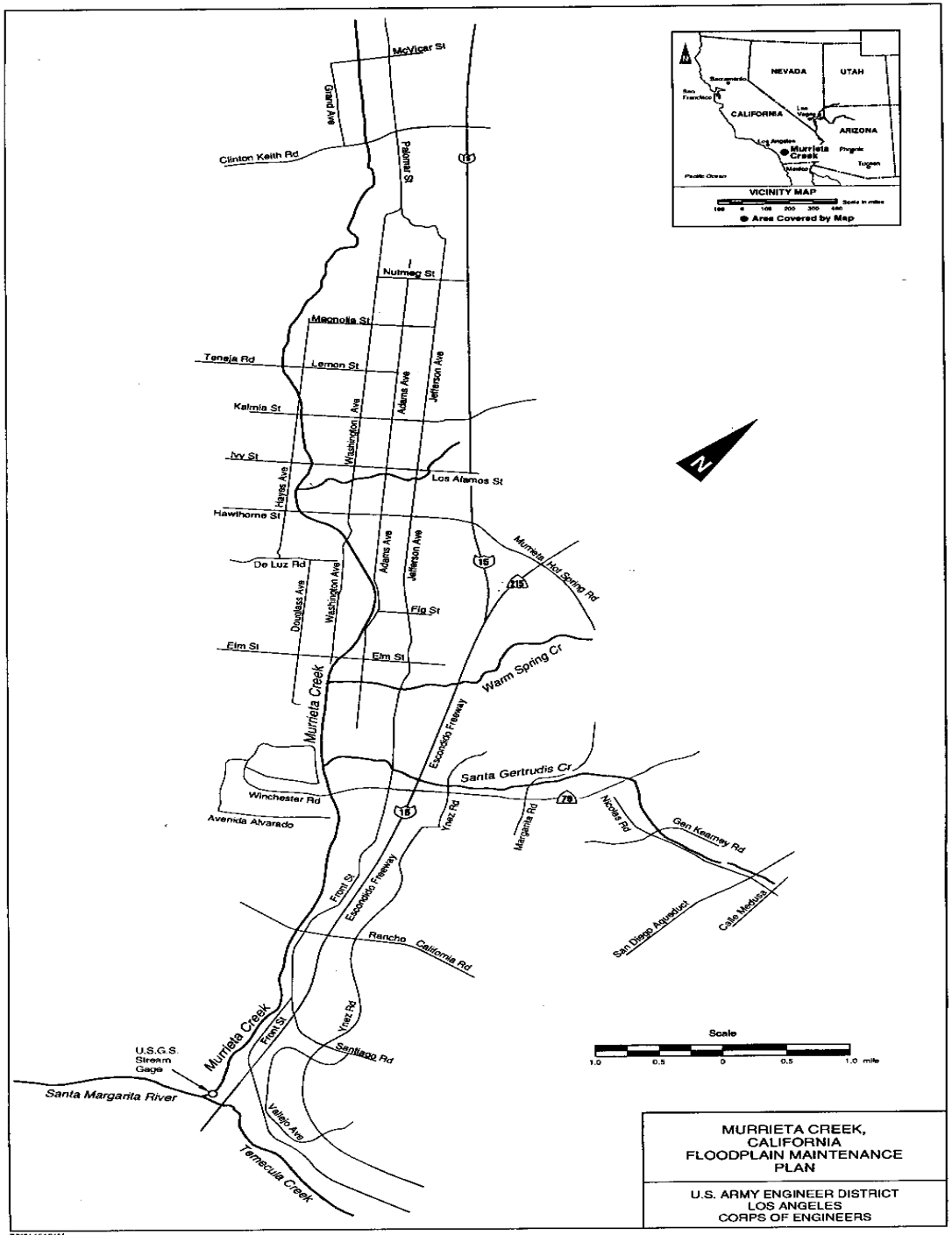
Study Area
Santa Margarita River Watershed



McVicar Street
Wildomar
I-215
I-15
Warm Springs Creek
Clinton Keith Road
City of Murrieta
Vicinity Map
Pacific Ocean
Sacramento
San Francisco
Study Area
Riverside
Los Angeles
Miles
Kilometers
Santa Gertrudis Creek
Murrieta Creek
City of Temecula
Temecula Creek
U.S.G.S. Streamgage
Santa Margarita River
I-15
Congressional Representatives
City of Murrieta:
Ken Calvert, 43rd District
City of Temecula:
Ron Packard, 48th Distric

Study Area Murrieta Creek Watershed Characteristics

- Watershed Area: 220 mi^2.
- Length: 13.5 miles (From Wildomar to Temecula Creek Confluence).
- Major Tributaries: Warm Springs Creek, Santa Gertrudes Creek, Slaughterhouse Canyon Creek, Cole Canyon Creek, Long Canyon Creek, Empire Creek.
- Major Cities: Murrieta and Temecula.



Study Area-Reaches

Reach 1: USGS gage to 300 ft.
north of Rancho California Rd.

Reach 2: 300 ft. north of Rancho
California Rd. to Santa Gertrudes
Channel.

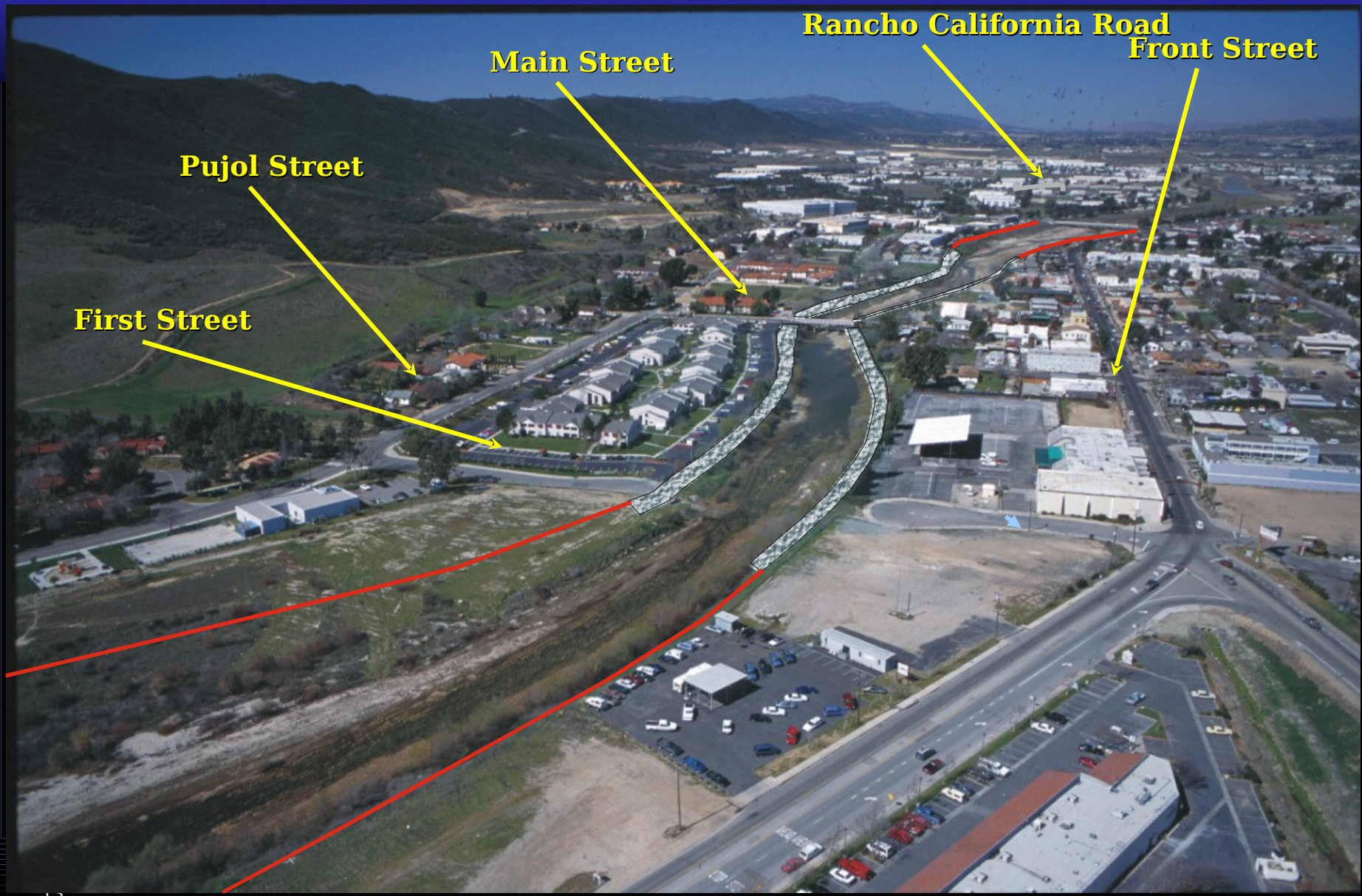
Reach 3: Santa Gertrudes Channel
to Elm Street.

Reach 4: Elm St. to Magnolia St

Study Area: Overview of Reach 1

Study Area: Just Below Reach 1

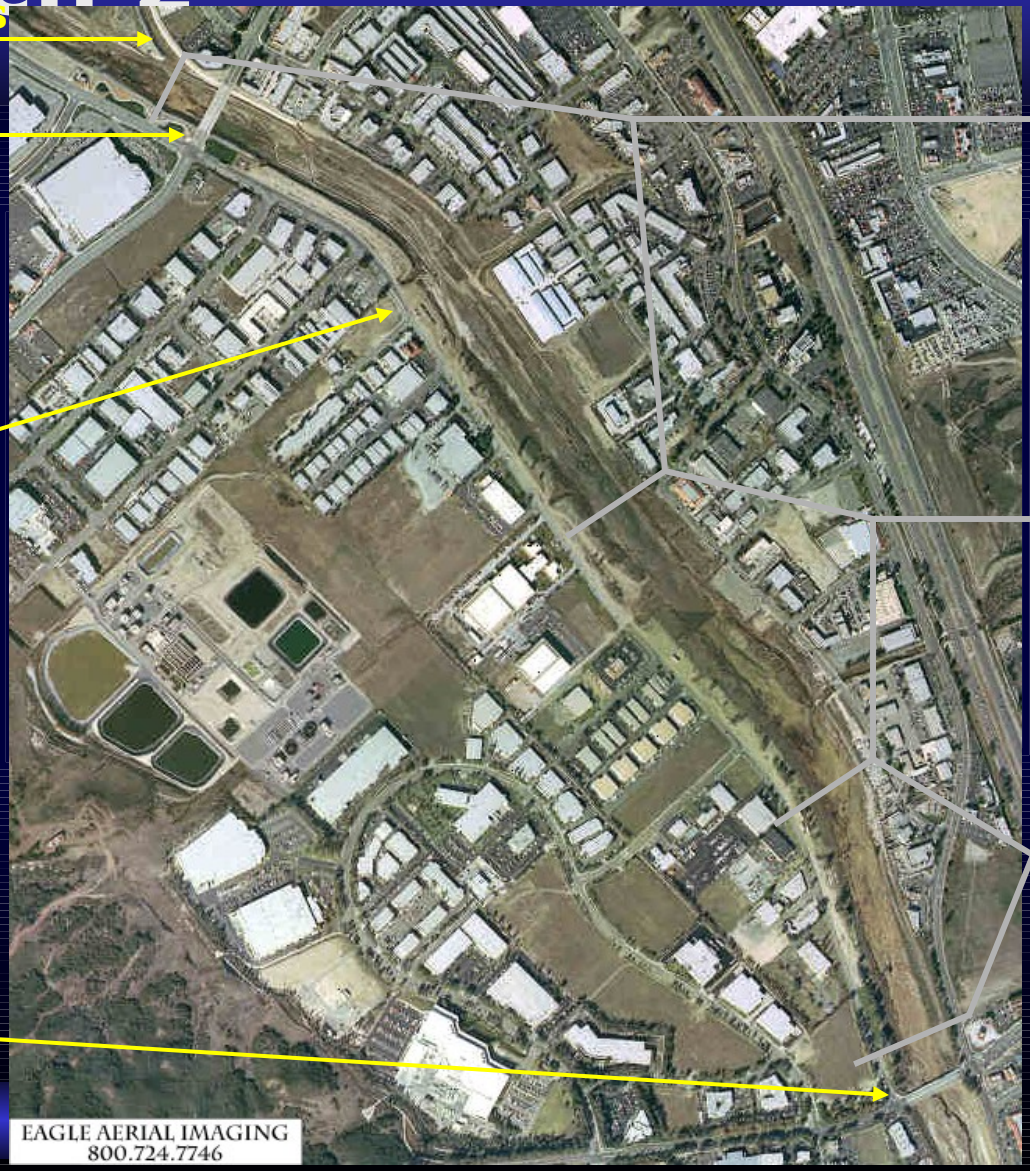
Murrieta Creek near Temecula Creek Confluence


Rancho California Road
Front Street
Main Street
Pujol Street
First Street

Study Area: Reach 1, Upper Portion Murrieta Creek - Old Town Temecula

Study Area Reach 1

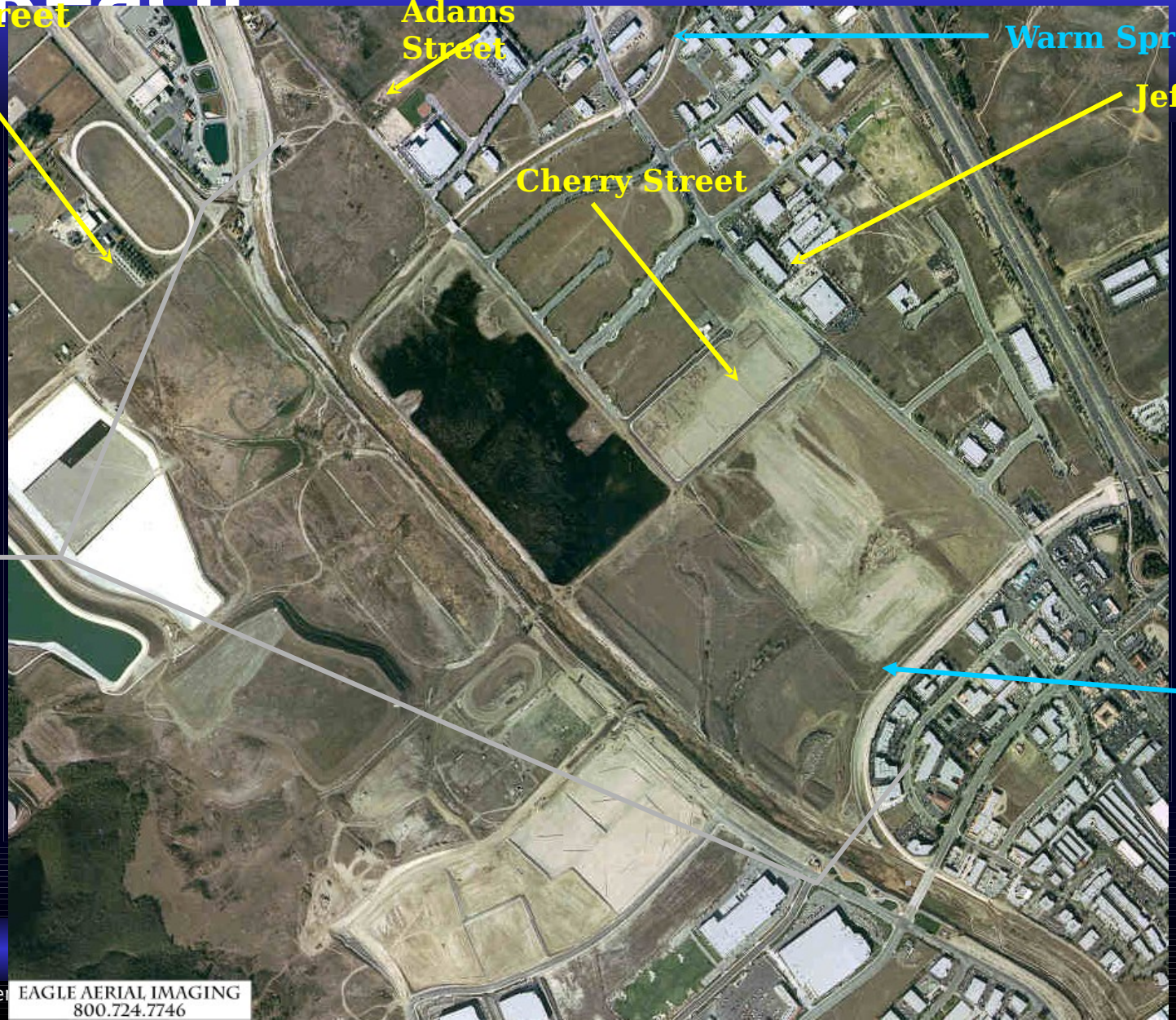
Study Area: Overview of Reach 2



Study Area: Reach 2, Lower Portion
Murrieta Creek - Upstream of Rancho California Road

Study Area: Reach 2
Murrieta Creek - Downstream of Winchester Road

Study Area: Overview of Reach



Study Area

Reach 3: Looking north just upstream of Winchester Road

Study Area: Reach 4 Overview

Study Area Reach 4: Lower Portion

Study Area Reach 4: Lower Portion

Study Area Reach 4: Central Portion

Study Area Reach 4: Upper Portion

Study Area: Reaches 4 (uppermost) and 5 (lowermost)

Study Area Reach 5

Study Area Uppermost Reaches

Study Areas Uppermost Reaches

- The Creek itself retains many natural features despite the suburban and urban growth around it

Identified Problems

- Threat of flooding
- Loss of wetland/riparian habitat in the region
- Diminishing of functional riverine system in the Murrieta Creek watershed
- Need for recreational facilities within the rapidly growing region

Flood Problem

- Majority of flood damages are industrial/commercial
- These are centered in reach 2B in Temecula
- Damages in this sub-reach account for 50% of all without project damages

Economics Assessment

Without Project Annualized Structural Damage ($100

Reach Name	Structural Damages
Reach 1A	$20.1
Reach 1B	$60.2
Reach 1C	$639.9
Reach 2A	$130.0
Reach 2B	$1,980.7
Reach 3A	$24.9
Reach 3E	$3.1
Reach 4A	$18.3
Reach 4B	$18.5
Reach 5	$221.1
Total	$3,116.7

Murrieta Creek Old Town Temecula

Flood Problem

- Existing residential damages center in old town areas

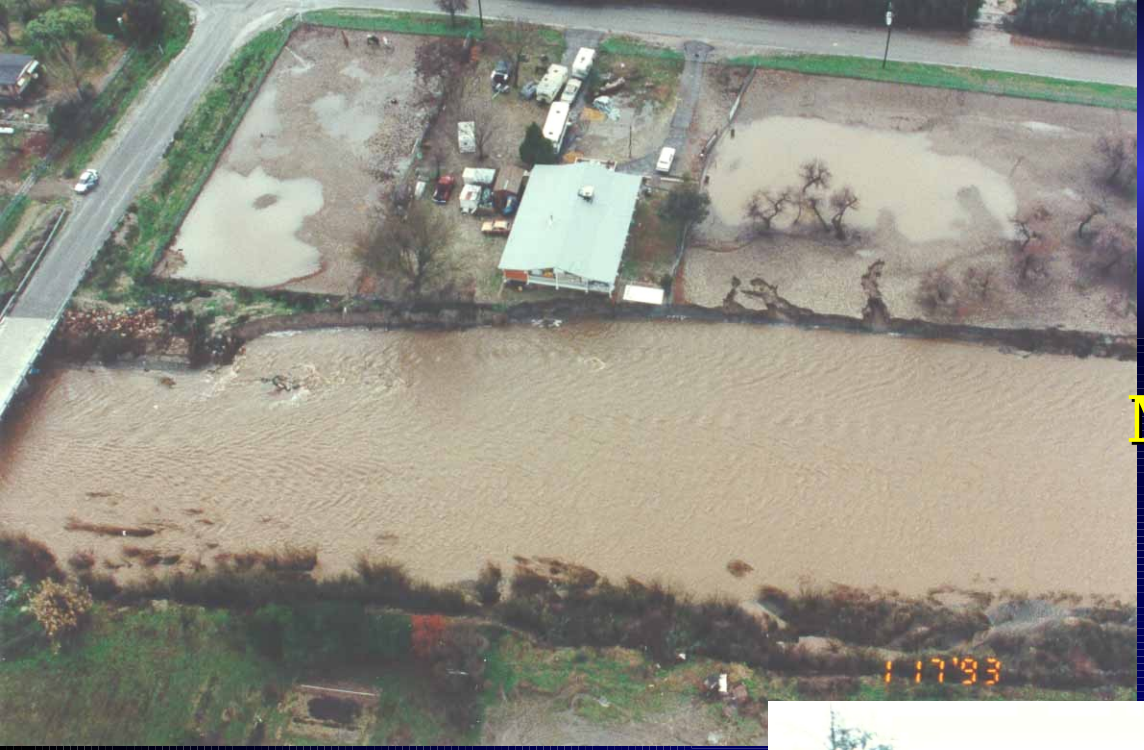
Old Town Area of Temecu

Approximately 440 structures

Old Town Area of Murrieta

Approximately 100 Structu

17 Jan 1993



Murrieta Creek at the B Street Bridge (City of Murrieta)

Murrieta Creek in Old Town Temecula (at 6th Street)

Identified Problems

- Threat of flooding
  - Increasing Levels of Damage Due to Flooding
    - 1978 and 1980 Flood Event:
      - U.S. Army Corps of Engineers staged emergency flood fights
      - Federal funds used to restore sections of the existing Murrieta Creek Channel
    - 1993 Flood Event:
      - 2 to 6 feet of sediment deposition from Winchester Rd. to Old Town Temecula
      - Estimated $2,000,000 in damages to public facilities along Murrieta Creek
      - Riverside County Flood incurred approximately $450,000 for facilities repair and channel work
      - City of Temecula and Kemper Corp. expended over $1,000,000 in clean-up and facility repair costs
  - Most damages occurred within the City of Temecula

Identified Problems

Loss of Wetland/Riparian Habitat along Murr

- Channelization of Murrieta Creek Since 1930's
- Degradation of Habitat particularly in the downstream areas
- Problem has gotten worse since Flood of 1993
  - Particularly in areas downstream of Warm Springs Creek
  - Warm Spring Creek is upstream terminus of Reach 3

Identified Problems

Loss/Decline of Wetland/Riparian Habitat along Murrieta

- Problem is manifested by decline in desirable wildlife and plant species
- Problem is manifested by increases in exotic species
- Problem is manifested by “patchiness” of good habitat and separation of riverine and upland habitats in many areas

Identified Problems: Loss of Wetlands

- Functional Assessment: estimates of the normal or characteristic activities that take place in wetland ecosystems
- Murrieta Creek is in the ‘riverine wetland class’
- Functions assessed:
  - maintenance of plant community
  - maintenance of detrital biomass
  - spatial structure of habitat
  - habitat interspersion and connectivity
- Ecosystem value measured in “Functional Capacities” (FC’s)

Biological Resources

- Existing conditions based on report by Jones & Stokes (1998)
- Vegetative communities:
  - Riparian and wetland communities
  - Upland communities
- Native wildlife
- Sensitive habitats
- Sensitive species
- Threatened and Endangered species

Identification of Problems and Opportunities: Recreation

- The watershed is in the path of significant growth
- Land use plans of the Cities of Temecula and Murrieta, as well as Riverside County, show intend to accommodate growth
- Local recreation needs are large and will grow
- Many want trails and other ways to enjoy “their” creek

- WHAT IS FEDERAL (Corps) ROLE IN MEETING LOCAL RECREATION NEEDS?

Local Sponsor Concerns

- Desire to provide 100-Year level of flood protection
- Desire to maintain aesthetic quality of the region
- Desire to maintain creek functional capacities to the maximum extent possible in conjunction of providing flood control

Local Sponsor Concerns

- Desire to provide enough protection to meet standards for FEMA
- Desire to provide equal levels of flood protection to both Cities

Agency and Stakeholder Concerns

- Environmental Agencies believe:
  - Environmental Agencies perceive continued environmental decline
  - They believe that almost any structural alternative will exacerbate the historical trend
  - They believe that past actions of the local sponsor must be mitigated as part of this study

Agency and Stakeholder Concerns

- Some local residents are particularly concerned about the use of ‘concrete” to solve other problems
- They voice displeasure with the channelization of Santa Gertrudes Creek by the local sponsor

Preliminary Findings (Without Condition)

- Lower parts of the channel are severely constrained
  - One extreme example is a lower income apartment complex-one of the few in the City
  - Other encroachments exist especially in the Old Town area of Temecula
  - This situation likewise constrains environmental restoration possibilities
- This problem is exacerbated because sediment studies indicate that channel deepening is severely constrained

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